

JMPS Enterprise



**Mission Planning Enterprise
Contract (MPEC)
Industry Day Conference
6-9 May 03**



Vision

The JMPS vision is a virtual environment that combines access to all operational and intelligence mission information with automatic sharing of information with any authorized user who needs it worldwide.





What the JMPS Enterprise is doing...

- We've developed a robust object-based open architecture
- Getting ready to spend ~\$1.5 billion on software to plug into JMPS architecture!
- Evolve Stove-piped systems into Integrated, Interoperable Capabilities in a Spiral fashion
- Explore the cross-mission nature of requirements and operator prescribed behaviors while focusing on the logical, reusable nature of architectural elements
- Careful management of both Architecture and Implementation Quality Attributes



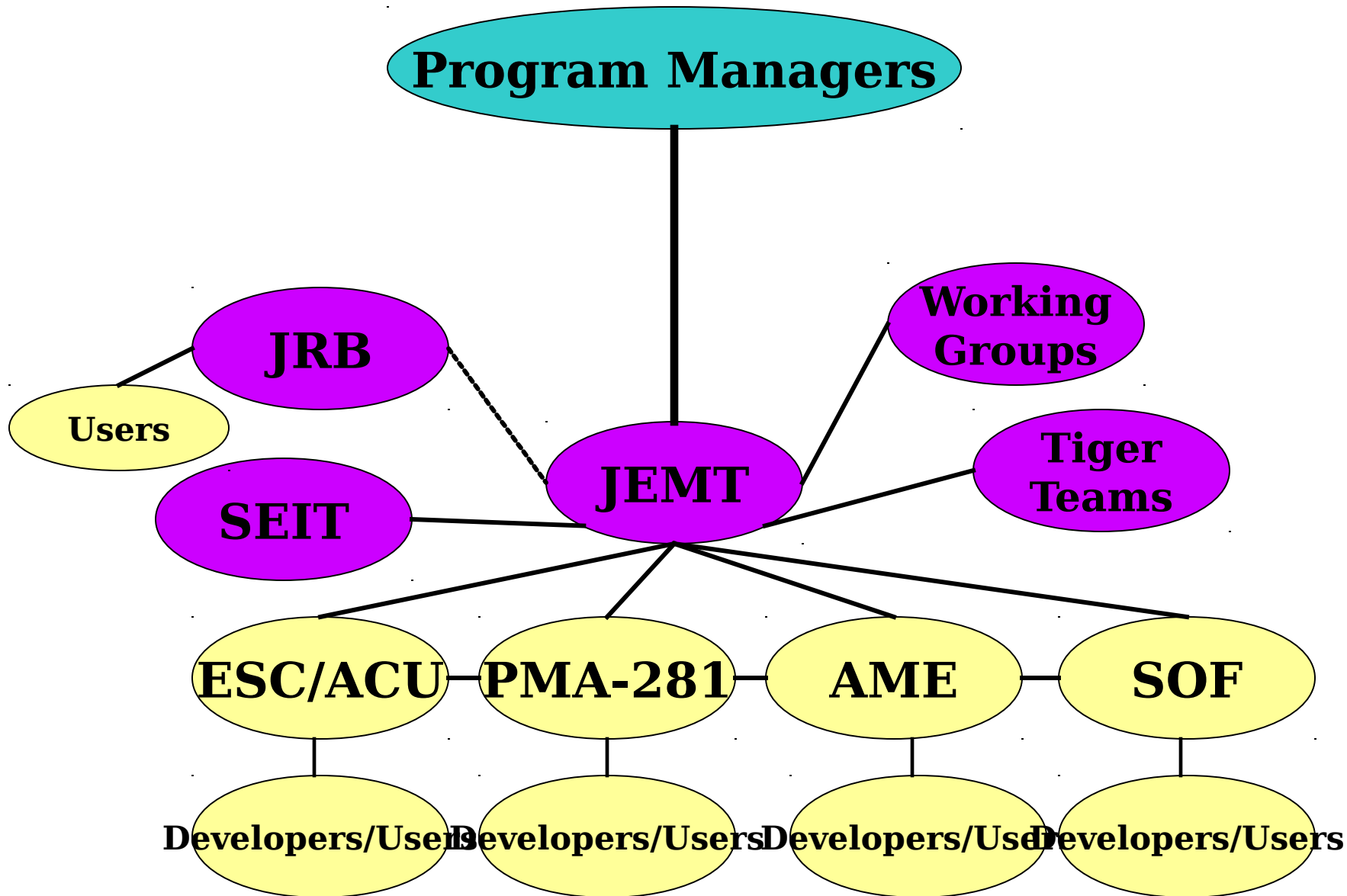
Memorandum of Agreement

- Signed by Program Offices from each Service (in signature chain)
 - ESC/ACU (Air Force)
 - PMA-233 (Navy)
 - PEO AVN (Army)
 - SOMPO (USSOCOM)
- Agrees to follow and enforce Business and Technical rules for the Joint Mission Planning System (JMPS)
- Facilitate interoperability
- Support developing numerous software components concurrently

Develop JMPS with a Focus on the Enterprise

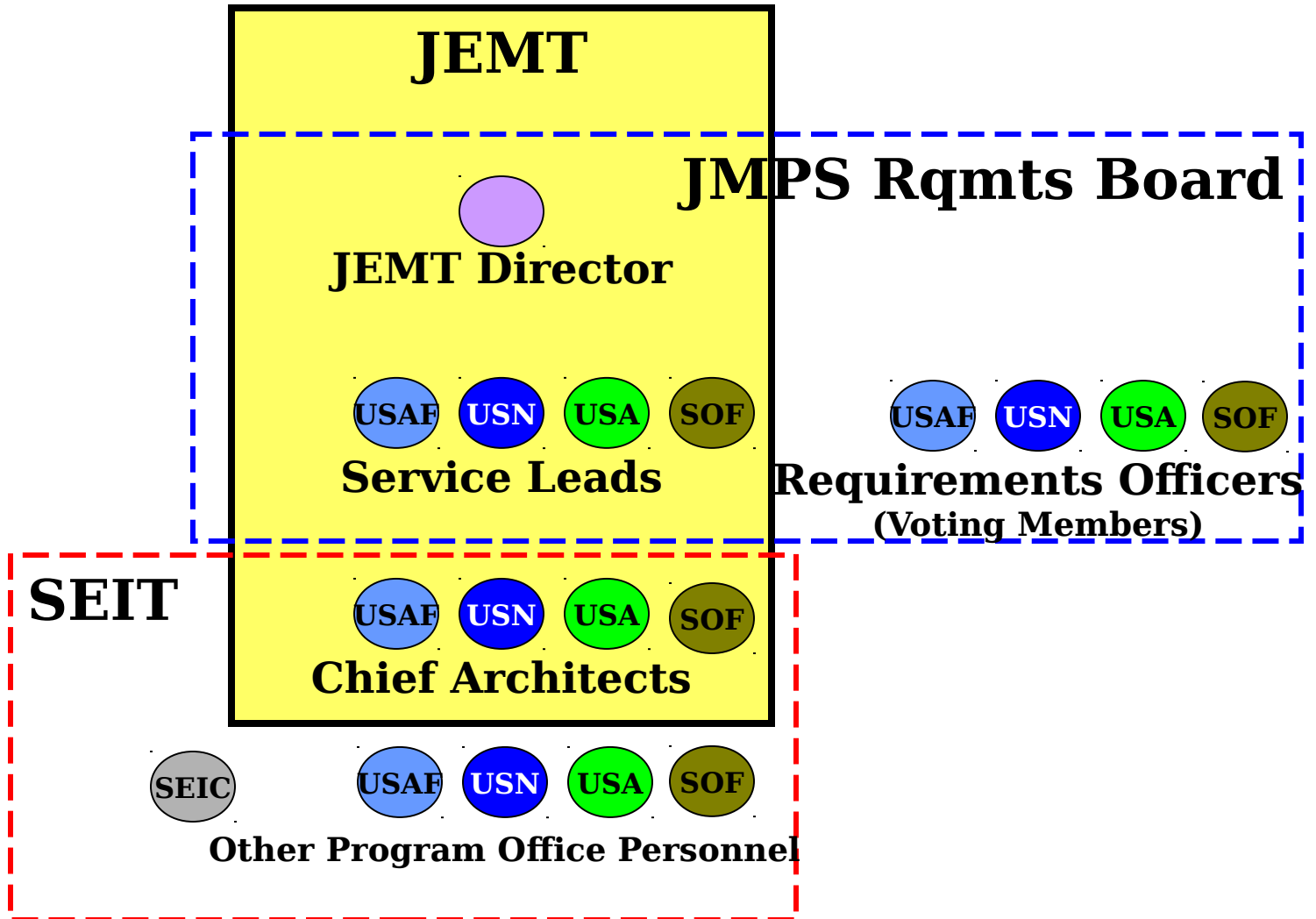


JEMT Organizational Interfaces



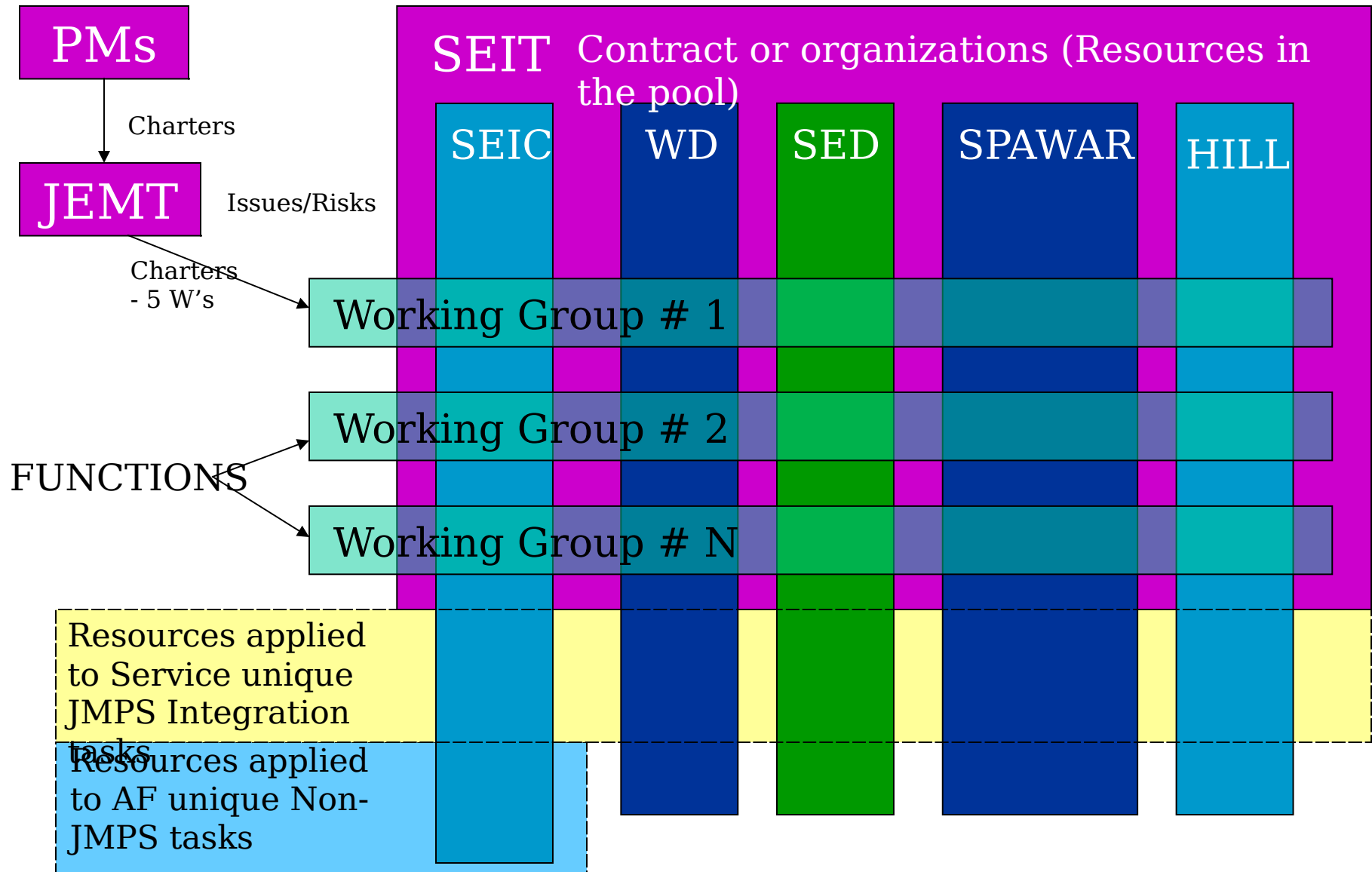


JEMT Organizational Overlap



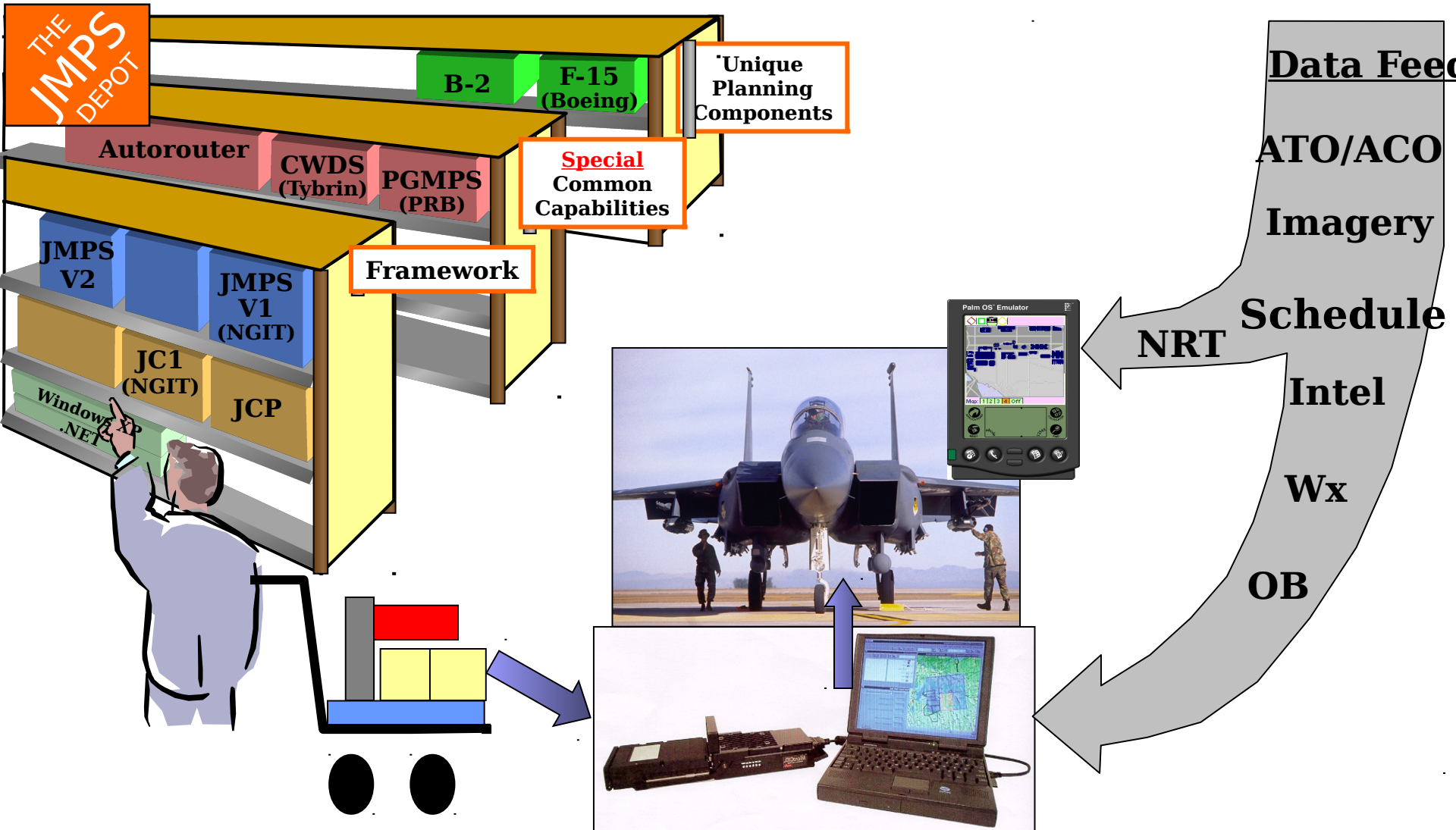


Sys Eng Integration Team Structure (SEIT)





JMPS Architecture

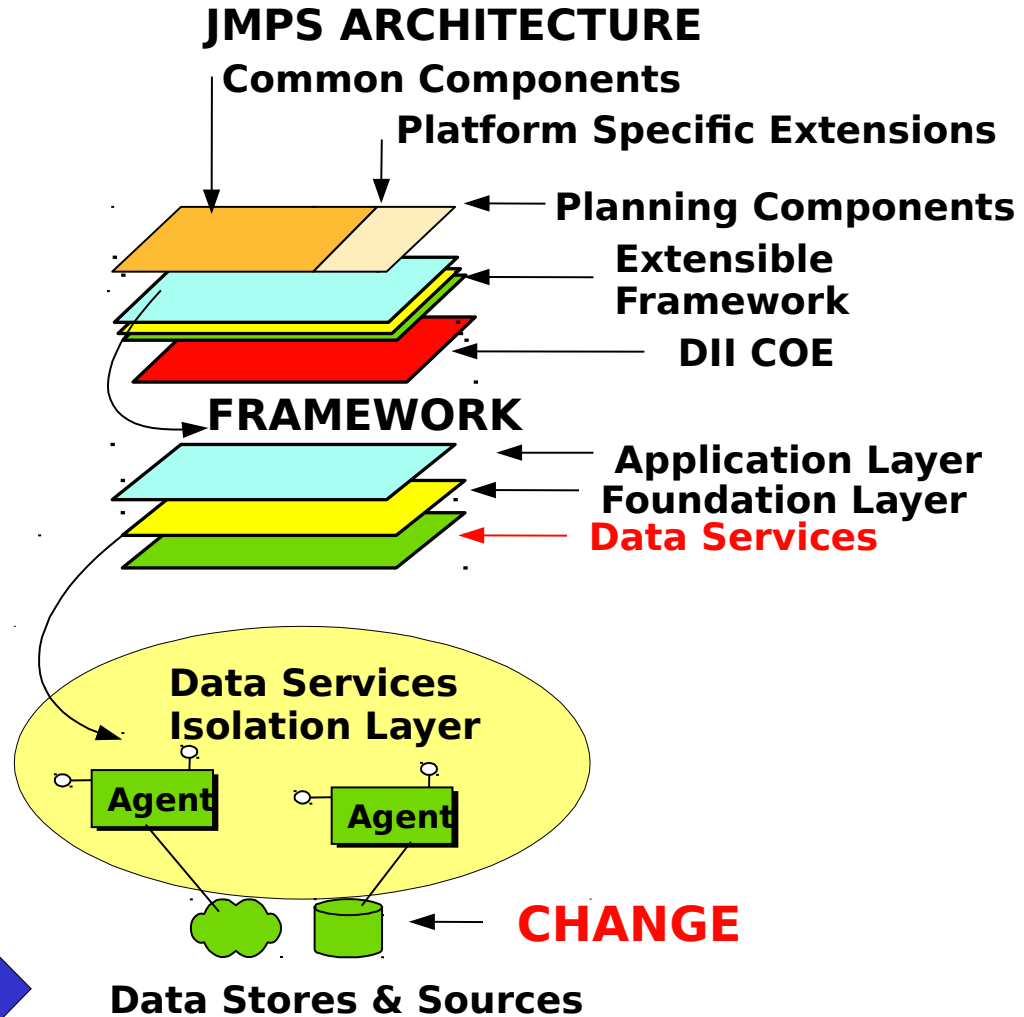




JMPS Architecture

- Architecture separates business logic from data sources
 - Framework Data Services provides isolation layer
 - Data access agents localize impact of change
 - Concept supports multiple data sources for same data type (e.g., weather data)
- Use of commercial standards
 - COM for framework development
 - Microsoft product
 - Comes as part of Windows operating system

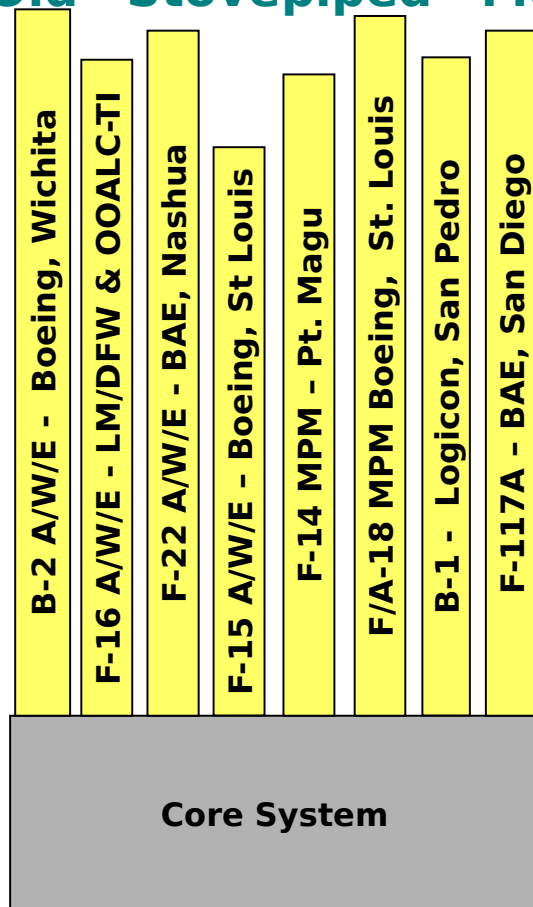
Isolate Change →



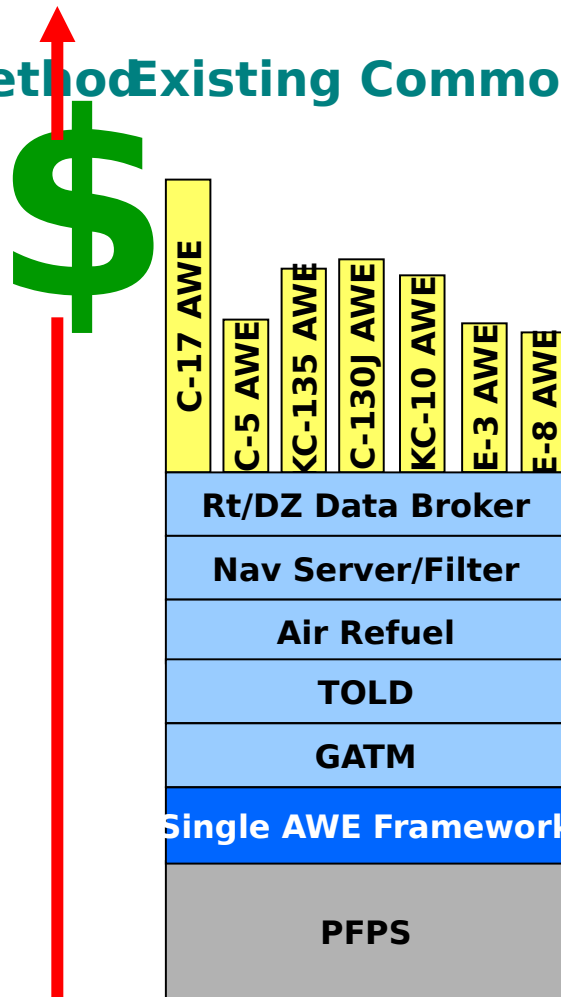


JMPS Platform Migration

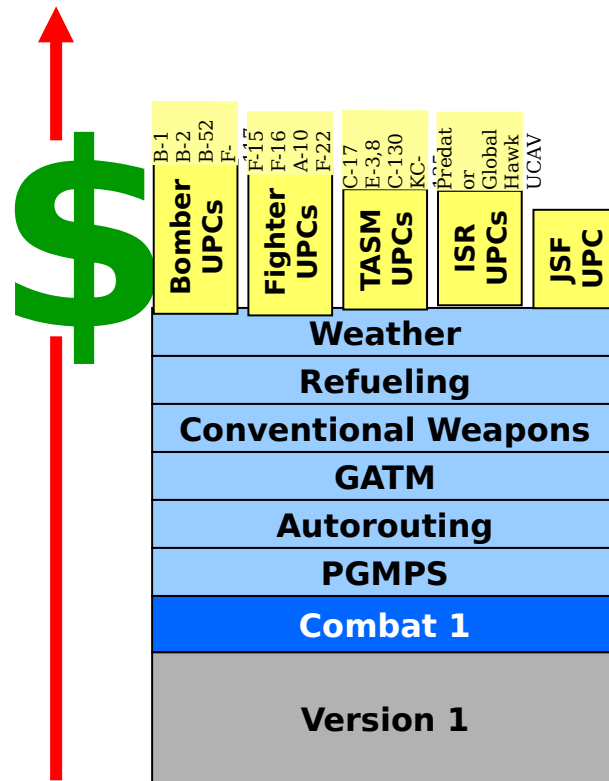
Old “Stovepiped” Method Existing Common Method New Common Method



MPS/TAMPS



TASM “Success Story” Today



JMPS

Build Once and Share



JMPS Status

- Framework 1 (JV1)
 - Beta 6 released—not fielding V1
 - Boeing Autometrics COTS map fixes (1 Apr)
 - Alternate map development on-going
 - CLIN 132 fixes
- Framework 2 (JC1)
 - 0.2 released
 - Combat 1 final delivery slipping (~4-6 mos)
- Will Merge to single JMPS code baseline
- Common Capabilities
 - PGMPS (JDAM, JSOW, WCMD, AGM-130)
 - Auto Routing
 - Airdrop
 - Weapons Effectiveness
- Releasability to the UK and other Coalition partners



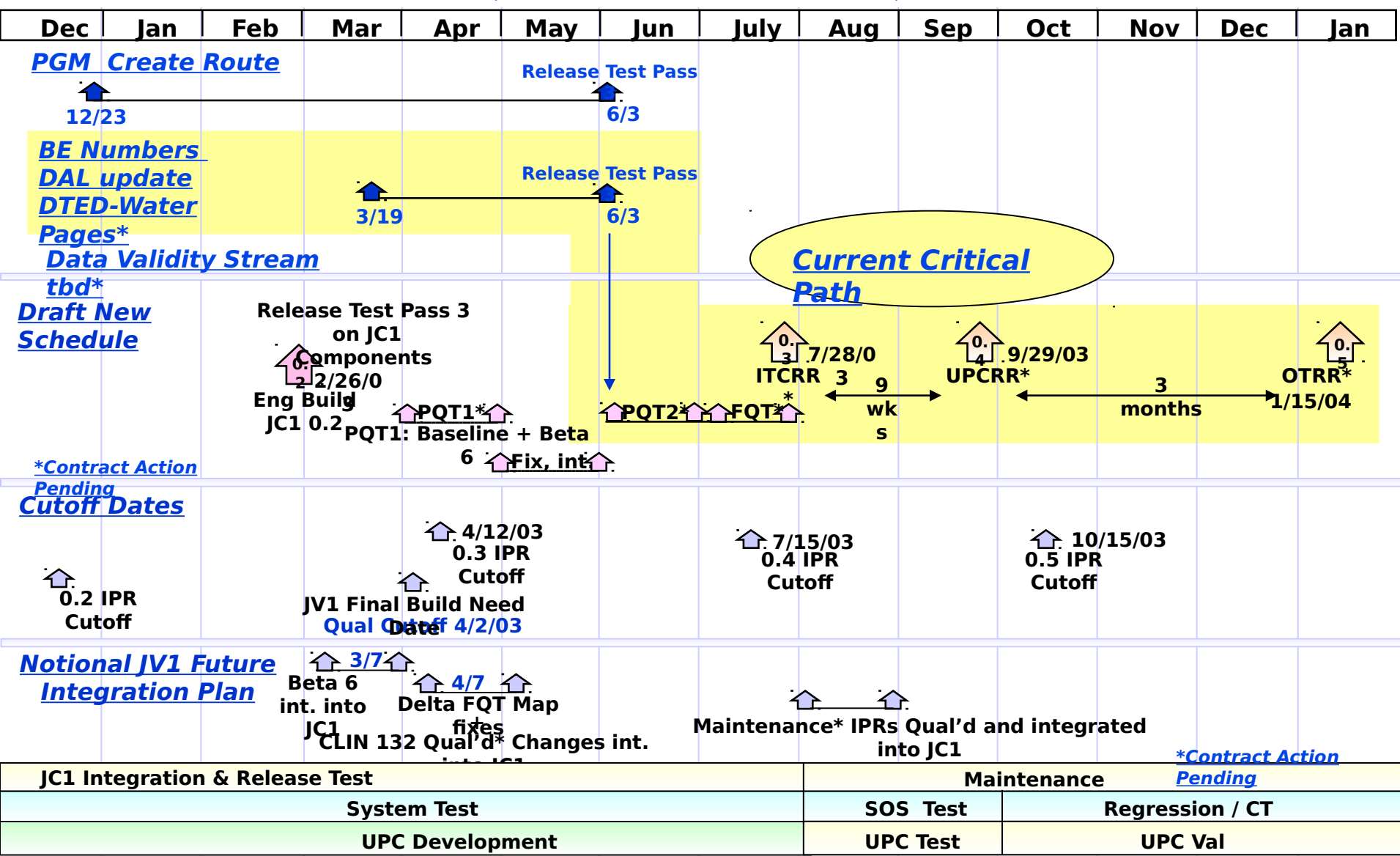
JMPS Framework 1

ID	Task Name	Duration	Start	Finish	1999				2000				2001				2002				2003				
					Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	
1	JMPS VERSION 1	1024 days	6/18/99	5/21/03																					
2	Development	966 days	6/18/99	2/28/03																					
3	Development	911 days	6/18/99	12/13/02																					
4	Beta 1	0 days	4/28/00	4/28/00	Beta 1 4/28																				
5	Beta 2	0 days	7/28/00	7/28/00	Beta 2 7/28																				
6	Beta 3	0 days	2/5/01	2/5/01	Beta 3 2/5																				
7	Beta 4	0 days	9/17/01	9/17/01	Beta 4 9/17																				
8	Beta 5	0 days	5/23/02	5/23/02	Beta 5 5/23																				
9	Beta 5.2	0 days	9/23/02	9/23/02	Beta 5.2 9/23																				
10	Beta 5.3	0 days	12/9/02	12/9/02	Beta 5.3 12/9																				
11	Beta 6/Version 1.0	0 days	2/28/03	2/28/03	Beta 6/Version 1.0 2/28																				
12	Test	276 days	5/1/02	5/21/03																					
13	Enhanced DT???????	217 days	5/1/02	2/26/03																					
14	OTRR???????????????	5 days	2/27/03	3/5/03																					
15	PQT	10 days	12/2/02	12/13/02																					
16	Fixes	37 days	12/13/02	1/31/03																					
17	TRR	1 day	1/31/03	1/31/03	TRR 1/31																				
18	FQT	9 days	2/3/03	2/13/03	FQT																				
19	Fixes	55 days	2/13/03	4/30/03																					
20	RRR	1 day	3/19/03	3/19/03	RRR 3/19																				
21	Delta FQT Map Perf	1 day	4/7/03	4/7/03																					
22	Gov't DT Report	1 day	5/7/03	5/7/03																					
23	RRP Checklist	1 day	5/14/03	5/14/03																					
24	Contract Closure	0 days	5/21/03	5/21/03	Contract Closure 5/21																				
25																									
26	JMPS VERSION 1 CLIN 132	131 days?	1/15/03	7/15/03																					



JMPS Framework 2 (JC1)

(Draft Schedule)





JMPS Framework 2 (JC1)

- Enhanced DT done on JC1 0.2 Beta
 - Set-up problems
 - Performance issues
 - GUI issues
 - Questions on minimum hardware configuration
 - NGIT witnessed EDT
 - Rcvd good one-on-one feedback on required improvements
- Parallel Baseline developments (JV1 & JC1) have left very little time to implement DR fixes



What is JCP? → JMPS Framework 3

- JCP is the Framework spiral after JC1
- Spiral AF will field with PGMPS for the F-15E MPE
- Adding both functional and usability enhancements
- On contract with NGIT 6 Mar 03
- Target FQT completion in Jan 04



JMPS Framework 3 (JCP)

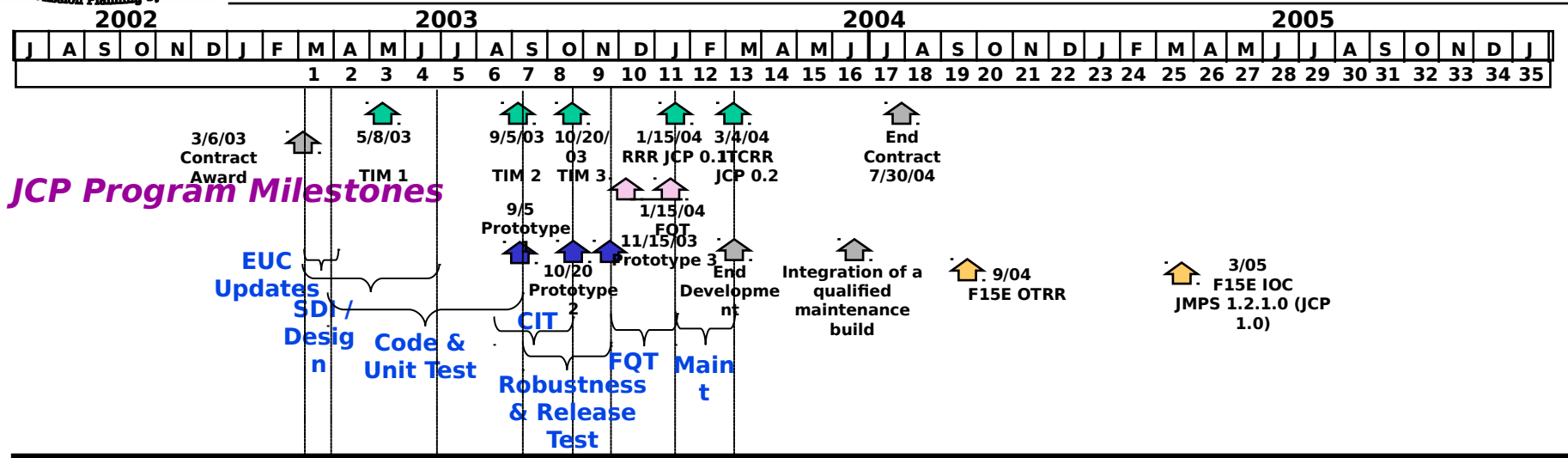
Enhancements

- **Adds Master-Slave Route Linking Option - Adds install option to use Master-Slave route linking instead of Peer-to-Peer**
- **Active Mission (with Multi-Select Capability) - Extends Mission Binder functionality so that as user identifies a mission as the active one, planning resources are automatically saved in that mission.**
- **Vertical Profile Container Access - Provides UPCs a reference to the Vertical Profile container, enabling the UPCs to plot custom data on Vertical Profile (e.g., AGM-130 high- and low-corridor).**
- **Tab Manager - Provides a “folded” Explorer display, enabling faster browsing and selection of items.**
- **Multi-Select Explorer - Adds Windows-like multi-select capability to JMPS Explorer.**
- **Alternative Map Integration (potential) - integrates Falconview-based map product**

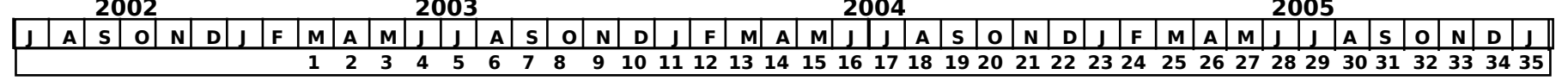


JMPS Framework 3

Program Master Schedule



Other Important Dates



JCP Install Deliveries C & UT Phase

- 4/4 Install Master Slave / Vertical Profile Code Complete
- 5/5 Install Partial Active Mission Code Unit Tested Master/Slave Vertical Profile
- 6/4 Install Partial Tabs Code Active Mission Code Complete
- 7/7 Install Tabs Code Complete
- 8/4 Install Unit Tested Active Mission
- 9/5 Install Unit Tested Tabs



JMPS Framework 2 and 3

ID	Task Name	Duration	Start	Finish	2001				2002				2003				2004				
					Q2	Q3	Q4		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
28	JMPS COMBAT 1	610 days?	9/15/01	1/15/04																	
29	Development	396 edays	9/15/01	10/16/02																	
30	JC1 0.1	0 days	8/5/02	8/5/02																	
31	Release Test	111 days	8/12/02	1/13/03																	
32	JC1 0.2	1 day?	2/26/03	2/26/03																	
33	Maintenance	177 days	1/13/03	9/15/03																	
34	JC1 0.25	1 day?	4/30/03	4/30/03																	
35	JC1 0.3/ITCRR FQT	1 day?	7/28/03	7/28/03																	
36	JC1 0.4/UPCRR	1 day?	9/29/03	9/29/03																	
37	JC1 0.5/OTRR	1 day	1/15/04	1/15/04																	
38																					
39	JCP	367 days?	3/6/03	7/30/04																	
40	Development	367 days?	3/6/03	7/30/04																	
41	Prototype 1	1 day?	9/1/03	9/1/03																	
42	Prototype 2	1 day?	10/1/03	10/1/03																	
43	Beta 0.1	1 day?	1/1/04	1/1/04																	



JMPS Common Capabilities

Future New

Access Target Information*
Airdrop*
Autorouting* **Collaborative Planning***
Communications Planning **Conventional Wpns**
Planning*
Crypto Keys/Crypto **Element Deconfliction**
EW Planning* **GATM/ CNS ATM***
Mission Rehearsal* **PGM Planning***
Political/Diplomatic Clearance* **Post Mission**
Processing
Refueling* **Sensor Employment**
Planning*
Sensor Predictions* **Weapons Effectiveness**
Tool*
Weather/Environmental Planning*

Framework Upgrades

Archive Mission Data
Customized MPE*
Enhanced Basic Mission
Planning
Electronic Reference
Library
Generate Mission
Materials
Generate Mission
Tasking/Parsing
Intelligence Planning
Process Data/Dataloads
Query/Process Imagery*
Security*
Terrain Planning/Vertical
Profile*

AIR FORCE ONLY

***Air Force Required**
Strategic Planning*

Web Enabling*



JMPS Common Capabilities

ID	Task Name	Start	Finish	2002				2003				2004				2005				2006				2007				2008			
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
45	COMMON CAPABILITIES	11/5/01	1/22/07																												
46	Weapons Effectiveness Tool	1/11/02	11/12/03																												
52	PGMPS (J,J,W,A)	8/8/02	2/27/04																												
62	PGMPS (SDB Phase II)	11/3/04	2/16/06																												
66	Airdrop (Spiral 1)	11/4/02	1/19/04																												
72	Airdrop (Spiral 2)	1/21/04	12/14/04																												
78	CWDS	1/1/03	8/4/03																												
81	Vertical Profile	1/6/03	10/10/03																												
87	Access Target Information	11/3/03	9/22/05																												
91	GATM	11/3/03	2/10/06																												
95	Autorouting	11/3/03	8/1/07																												
108	Mission Rehearsal	11/3/03	1/19/05																												
112	Sensor Predictions	11/3/03	3/3/06																												
116	Weather/Environ Planning	11/3/03	2/10/06																												
120	Web Enabling	11/3/03	7/4/06																												
124	EW Planning	11/3/03	4/25/05																												
128	Query/Process Imagery	11/3/03	10/22/05																												
132	Collaborative Planning	11/3/03	9/13/05																												
136	Enhanced Basic Mission Planning	11/3/03	11/2/04																												
137	Intelligence Planning	11/3/03	11/2/04																												
138	Security	11/1/04	2/9/07																												
142	Strategic Planning	11/1/04	11/11/06																												
146	Sensor Employment Plng	11/1/04	5/16/08																												
150	Refueling	11/1/04	8/17/07																												
154	Customized MPE	11/1/04	2/20/06																												
158	Political/Diplomatic Clearances	11/1/04	6/20/06																												
162	Communications Planning	11/1/05	11/1/06																												
163	Element Deconfliction	11/1/05	11/1/06																												
164	Crypto Keys/Crypto	11/1/05	11/1/06																												
165	Post Mission Processing	11/1/05	11/1/06																												
166	Archive Mission Data	11/1/05	11/1/06																												
167	Electronic Reference Library	11/1/05	11/1/06																												
168	Generate Mission Materials	11/1/05	11/1/06																												
169	Generate Mission Tasking/Parsing	11/1/05	11/1/06																												
170	Process Data/Dataloads	11/1/05	11/1/06																												

red - On Contract

Green - Current Estimate

Black - Only start date known



Air Force UPCs

ID	Task Name	Start	2002 Finish	2003					2004					2005					2006					2007					2008					2009
				Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4						
172	AIR FORCE PLATFORM UPCs	7/2/02	11/30/09																															
173	FIGHTERS	8/5/02	10/1/08																															
174	A-10	12/1/03	4/1/06																															
178	A-10 OFP Releases	2/1/06	2/1/06																															
180	F-16 Blk 30	12/1/03	11/30/05																															
184	F-16 Blk 30 OFP Releases	4/3/06	4/3/06																															
186	F-16 Blk 40/50	12/1/03	11/30/06																															
190	F-16 Blk 40/50 OFP Releases	4/3/06	10/1/08																															
193	F-15 MSIP, E	8/5/02	F-15 MSIP, E																															
197	F-15 OFP Releases	9/1/04	9/16/05																															
202	F-22	12/1/03	4/1/06																															
206	F-22 OFP Releases	6/1/07	6/1/07																															
208	TASM	12/1/04	10/2/06																															
209	TASM Tanker	12/1/04	9/30/06																															
213	OFP Release?	10/2/06	10/2/06																															
214	TASM Airlift	12/1/04	9/30/06																															
218	OFP Release?	10/2/06	10/2/06																															
219	TASM Special Mission	12/1/04	9/30/06																															
223	OFP Release?	10/2/06	10/2/06																															



Air Force UPCs

ID	Task Name	Start	Finish	2003		2004				2005				2006				2007				2008				2009				2010	
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
224	BOMBERS	12/1/04	10/1/09																												
225	B-1	12/1/04	7/2/07																												
229	OFP Release?	7/3/07	7/3/07																												
230	B-2	12/1/04	9/30/09																												
234	OFP Release?	10/1/09	10/1/09																												
235	B-52	12/1/04	9/30/09																												
239	OFP Release?	10/1/09	10/1/09																												
240	F-117	12/1/04	9/30/08																												
244	OFP Release?	10/1/08	10/1/08																												
245	OTHER	6/1/03	8/2/07																												
246	Predator	12/1/04	11/30/05																												
250	OFP Release?	11/30/05	11/30/05																												
251	Global Hawk	12/1/04	8/2/07																												
255	OFP Release?	8/2/07	8/2/07																												
256	JASSM	6/1/03	7/2/07																												
260	JASSM OFP Releases	5/1/06	7/2/07																												
263	U-2	12/1/03	9/30/05																												
267	OFP Release?	9/30/05	9/30/05																												
268	RC-135	12/1/03	1/30/05																												
272	OFP Release?	1/30/05	1/30/05																												
273	HH-60	12/1/03	4/1/05																												
277	OFP Release?	4/1/05	4/1/05																												



Navy UPCs

ID	Task Name	Start	Finish	2002				2003				2004				2005				2006				
				Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
279	NAVY PLATFORM UPCs	1/2/02	1/12/05																					
280	Initial Group (w/JC1)	1/1/02	11/28/03																					
281	F-14	1/1/02	11/28/03																					
282	F/A-18	1/1/02	11/28/03																					
283	E-2C	1/1/02	11/28/03																					
284	AV-8B	1/1/02	11/28/03																					
285	JSOW	1/1/02	11/28/03																					
286	JDAM	1/1/02	11/28/03																					
287	SLAM	1/1/02	11/28/03																					
288	HARM	1/1/02	11/28/03																					
289	ARC-210	1/1/02	11/28/03																					
290	TAMMAC	1/1/02	11/28/03																					
291	ETRIMS	1/1/02	11/28/03																					
292																								
293	P-3	7/1/04	7/1/04													7/1								
294	EA-6B	7/1/04	7/1/04													7/1								
295	T-45	7/1/04	7/1/04													7/1								
296	MV-22	9/1/04	9/1/04													9/1								
297	KC-130T	7/1/05	7/1/05															7/1						
298	KC-130J	7/1/05	7/1/05															7/1						
299	S-3	7/1/05	7/1/05															7/1						
300	MH-53E	7/1/05	7/1/05															7/1						
301	VTUAV	7/1/05	7/1/05															7/1						
302	CH-64	6/1/06	6/1/06																					6/1
303	CH-53D	6/1/06	6/1/06																					6/1
304	CH-53E	6/1/06	6/1/06																					6/1
305	UH-1N	6/1/06	6/1/06																					6/1
306	UH-1Y	6/1/06	6/1/06																					6/1
307	AH-1W	6/1/06	6/1/06																					6/1
308	AH-1Z	6/1/06	6/1/06																					6/1
309	SH-60	6/1/06	6/1/06																					6/1



Army UPCs

ID	Task Name	Start	Finish	2002			2003				2004				2005				2006				2007				2008				
				Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1
311	ARMY PLATFORM UPCs	2/13/03	1/12/05																												
312	AH-64A Mod	5/3/04	8/1/05																												
315	AH-64D	5/3/04	2/28/07																												
316	Version 9 w/GATM	5/3/04	8/1/05																												
320	Version 10	2/28/05	2/28/06																												
323	JTRS Integration (MY III)	2/28/06	2/28/07																												
326	CH-47D w/GATM	5/3/04	8/1/05																												
329	UH-60A/L w/GATM	5/3/04	8/1/05																												
332	CH-47F	6/3/02	10/1/08																												
335	GATM	3/1/04	10/1/04																												
336	OH-58D KW CDS4 ph IIB	5/3/04	8/1/05																												
339	OH-58D KW CDS2	5/3/04	8/1/05																												
342	RAH-66	6/3/02	4/29/05																												
343	UH/HH-60M (UH-60Q/HH-60L)	5/1/03	11/30/06																												
346	TUAV UPC	2/1/06	10/1/07																												
349	SUAV, OAV-L, OAV-M	2/1/06	10/1/07																												



JMPS Business Rules

- Government Purpose License Rights (GPLR) as the “standard”
- Earned Value Management (EVM)
- Software Capability Maturity Model (SW-CMM) Level 3 or Equivalent) as a “standard”
- Mission planning domain knowledge
- Associate Contractor Agreements (ACA)
- Complete interface documentation (Interface Control Documents and Interface Design Descriptions)
- Periodic source and executable code release deliveries
- Programmer’s Guide delivered
- Open design reviews - all JMPS developers invited to attend



JMPS Technical Rules

- Standardized Requirements given to developers using Use Cases, Activity Diagrams, UML and Operational Architectural Views
- Design for extensibility
- Design for releasability to foreign governments
- COE Level 6 compliant
- Meet JMPS Security Target requirements
- Adhere to JMPS architectural standards
- Interface Design Language (IDL) with semantics
- Must Provide government with access to developer's problem database
- Comply with DoD directives



Implementation Guidelines

- To be incorporated into all future JMPS RFPs and contracts
- In situations where implementing the business and technical rules are not in the best interest of the Gov't, waivers must be approved by one of the signatory's of this document
- Living document – Subsequent changes will be captured in the MOA



***Questions
?***